

ABSTRACT OF THE DISCLOSURE

A device for measuring the AC voltage drop across a series of connections under load with no direct electrical contact to the conductors. The presence of a substantial resistance at series contacts is indicative of a series arcing fault. The device comprises a capacitive probe for clamping to the outer insulation layer of the wire to sense a first voltage at a first node. The device further comprises a floating high-impedance meter having a ground reference coupled to the source of common-mode voltage at a second node, the floating high-impedance meter being adapted to measure a voltage difference between the two nodes and being further adapted to indicate the presence of the series fault when the measured voltage exceeds a predetermined level.